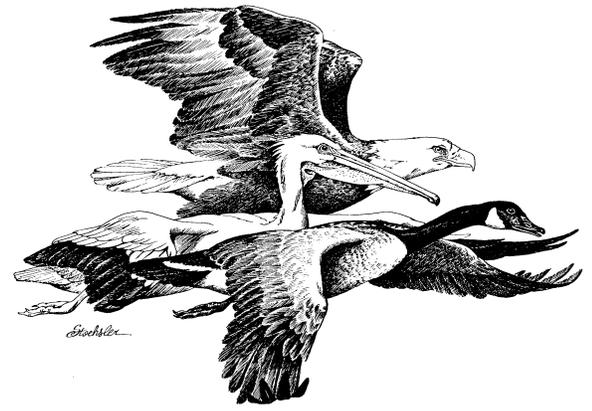


Words from the Wetlands



News from The Klamath Basin NWR's

Spring 2001

Severe Water Shortages Expected for Lower Klamath National Wildlife Refuge

“Making the best of a bad situation”

Dave Mauser
Refuge Biologist

Lower Klamath National Wildlife Refuge (NWR) is the most biologically productive refuge within the 6 refuge Klamath Basin NWR Complex. The refuge that lies within the Klamath Reclamation Project (Project), represents the fragmented remains of historic Lower Klamath Lake, and is dependent on the Project for most water deliveries. Lower Klamath (NWR) was established as the Nation's first waterfowl refuge in 1908 by President Theodore Roosevelt. The goal of the refuge is to preserve habitat for endangered species, migratory wetland birds, and numerous other resident and breeding wildlife species.

Wetland habitats and the historic hydrology of the Klamath Basin have been drastically altered by mans influence. Historic Lower Klamath Lake was an 80,000-90,000 acre wetland and lake system directly connected to the Klamath River via a natural channel called the Klamath Straits. Because the lake bed was topographically lower than the river, water flowed into the lake through the Klamath Straits during periods of high water with lake and river levels regulated by a rock

reef near Keno, Oregon. Depending on run off conditions in the Klamath River, the historic lake reached its greatest size and depth in late April to mid-May, after which evaporation, transpiration, seepage, and outflow back to the river reduced lake levels to a minimum in late August or early September. Water levels began to rise again during September and October with rising river levels.

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The historic lake supported tremendous populations of migrant and resident waterfowl as well as large populations of colonial nesting water birds. William Finley in his early writings described nesting colonies of grebes, terns, pelicans, and cormorants. In addition, Finley described Lower Klamath Lake as the “greatest [waterfowl] breeding ground in that whole region [lake region of southern Oregon] and “perhaps the most extensive breeding ground in the west for all kinds of inland water birds”. Lower Klamath NWR was established in 1908 primarily to protect colonial nesting water birds from commercial plume hunters as well as waterfowl from market hunters.

This historic picture began to change when in 1905 the States of California and Oregon ceded the lands under the historic Tule and Lower Klamath Lakes to the federal government for reclamation purposes. As part of the Klamath Reclamation Project dams and canals were constructed, stream flows were diverted, and wetlands drained. As a result, the historic hydrology of the Basin’s lake, wetlands, and rivers changed substantially. Early in the Project's history, the natural water connection between Lower Klamath Lake and the Klamath River was blocked allowing the lake to gradually evaporate over the next several years. This essentially made Lower Klamath NWR solely dependent on the Project for its water supply.

Through the 1980's and early 1990's, the Klamath Project's primary purpose was to provide irrigation water to approximately 200,000 acres in the Upper Klamath Basin. To accomplish this goal, water levels in Upper Klamath Lake and flows in the mainstem Klamath River were manipulated to achieve this purpose. In times of drought, the Project obtained flow variances for the Klamath River from the Federal Energy Regulatory Commission (FERC) which allowed for flows below established minimums. In addition, Upper Klamath Lake levels were lowered to near dead storage. Extreme drought in 1992 and 1994 coupled with listing of 2 species of suckers in Upper Klamath Lake demonstrated for the first time the limitations of this system. In addition, the coho salmon in the Klamath River was recently listed as threatened.

Increased recognition of tribal treaty rights for subsistence on both Upper Klamath Lake and the Klamath River coupled with listings of suckers in the lake and salmon in the river placed additional needs on traditional irrigation supplies in the Project. As a result of conflicting views of how water within the Project should be used, a Solicitor's Opinion dated July 25, 1995 was issued. The historic “irrigation first” followed by refuge needs was replaced with a new priority system with endangered species first followed by tribal trust responsibilities, irrigation, and National Wildlife Refuges.

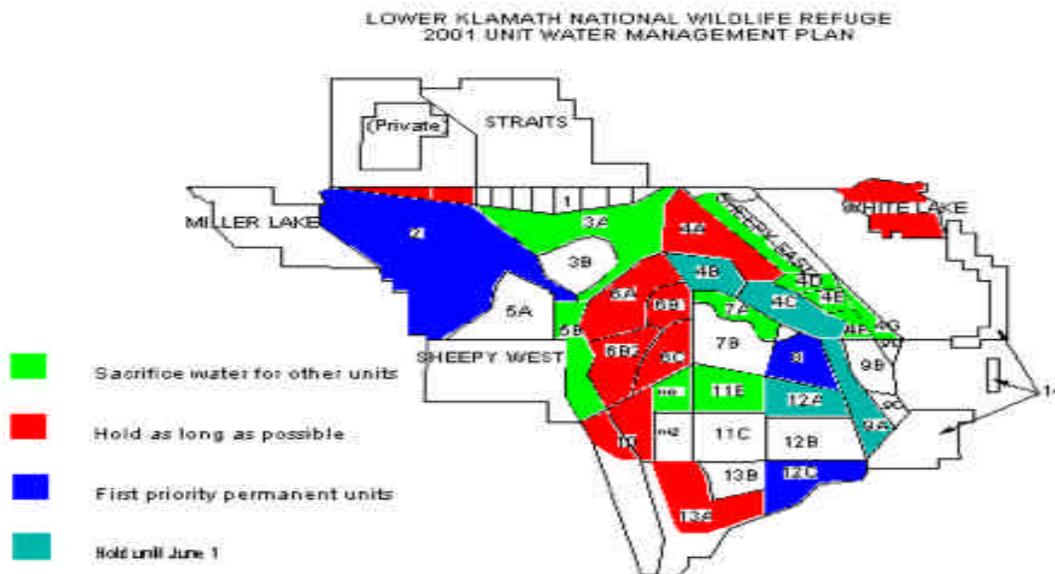
Since 1995, staff at the Refuge have been actively involved in negotiations concerning water allocations within the Project. Participants have included Federal and State agencies, conservation groups, tribes, farmers, members of the congressional delegation, and senior officials within the Department of Interior. The years 1995 to 1999 were characterized by normal to above average water supplies for the Project and few water quantity problems surfaced. The year 2000 marked the first time since 1994 that water supplies fell below average. Although supplies were only slightly below average (99% of average), additional water devoted to the Klamath River and Upper Klamath Lake for endangered species coupled with relatively high irrigation demand in the Project left water in short supply for fall flooding of refuge wetlands. Water for Lower Klamath NWR was entirely or partially restricted during most of September leaving us behind in flooding habitats for fall migrant waterfowl.

(Continued on Next page)

For 2001, projected waters supplies are significantly less than last year. The April run off forecast to Upper Klamath Lake from the Natural Resource Conservation Service is predicting the lowest inflow to the lake in the 40 years of measurement (21% of average). Because of the concern for a poor water year, refuge water supplies were curtailed in the first week of January 2001. Luckily, during the previous October to December period the refuge was able to flood most refuge wetlands and some agricultural fields prior to the water shut-off. This has allowed for at least fair habitat conditions for spring migratory waterfowl and shorebirds. The 2001 Water Management Plan issued by the Bureau of Reclamation indicates that both the refuge and Project farmers will be without water in the upcoming season. The only exceptions are water for Sump 1(A) on Tule Lake NWR for a small population of endangered suckers and irrigation of Langell Valley and Horsefly Irrigation Districts who draw their water from Clear Lake. Water shortages to Lower Klamath NWR will be much more severe than either the droughts of 1992 or 1994.

In March the refuge created a contingency plan to deal with a zero delivery of water to Lower Klamath in 2001. Our primary concerns were habitat for spring migrant waterfowl and shorebirds, early summer habitats for shorebird and waterfowl production, and habitat for colonial nesting water birds such as egrets, herons, and white-faced ibis. Current water supplies are expected to be exhausted by September leaving little or no habitats on the refuge for fall migratory water birds. With these objectives in mind, refuge biologists selected the management units having the greatest potential to achieve the wildlife goals listed above. Other units were identified as sacrificial areas that would provide water to more valuable wetland areas. Other areas were identified as holding water in place for as long as practical. This water management plan will require the close cooperation among refuge managers, biologists, and irrigators to ensure that what water remains is optimally used for wildlife. The following map illustrates the location and water management plan for each management unit.

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The role of Lower Klamath NWR in the Klamath Basin and the Pacific Flyway is different in different water years. The importance of Lower Klamath NWR increases during drought years when other wetlands are dry. This year, water birds returning from wintering areas further south in the Pacific Flyway have been faced with extremely dry conditions on the spring migration. The wetlands on Lower Klamath NWR have been one of the only bright spots in Northeastern California and Southeast Oregon. As a result duck, goose, and shorebird populations this spring have been noticeably greater than in wetter years. This situation will be repeated for fall migrants except the 23,000 acres of wetlands habitats typically available on Lower Klamath will be dry. Obviously, other programs such as visitor viewing opportunities will also be affected.

Biologically, what does a dry Lower Klamath NWR mean? To answer that question, one has to have an understanding of the current role of the refuge in the Flyway. Lower Klamath NWR is host to the largest fall population of staging waterfowl in the Pacific Flyway (1.8 million birds in fall 1997). It is estimated that 30-40% of the Flyway's waterfowl population use the refuge on the spring and/or fall migration. The refuge also winters the largest concentration of bald eagles (200-900 birds) in the Lower 48 states, and supports 20-30% of the Central Valley population of sand-hill cranes during fall migration. In addition, the refuge hosts large numbers of colonial nesting water birds and a diverse array of "sensitive" wildlife species. Can these birds "go somewhere else"? With 90-95% of wetlands already lost in California due to man's activities and drought further reducing Pacific Flyway wetlands, it is hard to imagine where that "somewhere else" might be. Impacts are likely to be felt throughout the Pacific Flyway and are a significant setback toward achieving the goals set forth in the North American Waterfowl Management Plan of which the United States, Canada, and Mexico are signatories.

The refuge staff continues to work towards water supply solutions including the drilling of high capacity wells (winter of 2001/2002), storage of winter "surplus" water, and obtaining water rights through the State of Oregon's water rights adjudication program. Because current demands for water in the Upper Klamath Basin are greater than supply, a multitude of fixes will be required to solve the refuge complex's water problems.



Volunteers Needed !!!

Contact us on how you can become part of the team.

We especially, need volunteers to help with our Visitor Center operations . Learn more about opportunities to work with the Biologist monitoring Bald Eagle roost trees from May 7, 2001 into the month of June 2001. This will be a strenuous outdoor activity that will be conducted at Bear Valley National Wildlife Refuge. For more information on this activity contact: **John Beckstrand or Dave Mauser at (530) 667-2231.**

So, if you would like to be come part of a great team of Volunteers and Employees, meet new and interesting people and have an all around good time. **Then Don't Wait !!!!**

Contact: Park Rangers David Champine or Jerry Ann King at (530) 667- 2231

Lower Klamath Refuge Embarks on Groundwater Development

by Fran Maiss
Deputy Refuge Manager

As you are probably aware from other articles published in previous newsletters, the Lower Klamath National Wildlife Refuge is fourth in line in the water priority allocation system of the Bureau of Reclamation's Klamath Project, behind endangered species needs, Native American Tribal trust responsibilities, and agricultural irrigation contracts.

In an effort to reduce reliance on the Bureau Project, as well as helping to alleviate the Project's water shortage problems, the refuge is preparing to develop seven groundwater wells, which when complete would provide 23,100 acre feet of water in years when mother nature's supply is insufficient. This estimated production is based on an extensive engineering analysis and test drilling program undertaken during the summer of 2000. This predicted amount of water constitutes approximately 25% of the total annual need for the Lower Klamath Refuge.

When used during periods of insufficient supply, these wells will allow the refuge to offset evaporation to selected wetlands of high biological importance, such as Unit 2, which supports a significant fish population upon which nesting pelicans, egrets, pond turtles and river otters depend. Unit 2 is also an important loafing area for migrating and wintering waterfowl, which provide a food source for the large number of wintering bald eagles in the Klamath Basin. Besides providing supplemental water to Unit 2, some of the wells will directly supplement Units 9a, 9c, 12c and White Lake. By having direct impoundment capability for these waters, the refuge will be able to fully comply with Siskiyou County's groundwater ordinance, which stipulates that any groundwater utilized within the county must remain in the county.

The timetable for development of these wells is August through December 2001. Unfortunately, this years unprecedented drought, which saw the Klamath Basin at less than 30% of normal snow pack as of the first week of April, will likely not be alleviated by this well development. That is because of the logistics involved with not only drilling the wells but installing pumps, pipeline delivery systems to the nearest wetland and having the electric company install a power line from the nearest power source. The refuge is currently circulating a draft environmental assessment on this project proposal which can be accessed through our web site under "Refuge Management". Along with completion of this EA, archeological clearance must be obtained and a well drilling contract formulated. When it is finally completed, this groundwa-

ter development program should ensure a base level of protection for the biological resources of this nationally significant wildlife refuge.

Photo Blind Receives a Facelift

By Dave Menke
Outdoor Recreation Planner

Photo blind #1 on Tule Lake National Wildlife Refuge (also known as the Hill Road Blind) has been replaced with a much improved two person blind thanks to the efforts of volunteers **Bob Blood** and **Hank Smith**.

This is a blind set up for early morning photography with the best opportunities in spring and early summer when any of 30 or more bird species frequent the area. The blind offers opportunities for closeup photographs of birds swimming or wading in nearby shallow water, loafing on an adjacent mud flat or perched on a conveniently placed snag. As with the refuge's other photo blinds a nominal fee and advanced reservations are required.

Bird species photographed near this blind in the past (listed approximately from most to least common) include: American coot, killdeer, red-winged blackbird, ring-billed gull, Brewer's blackbird, gadwall, northern shoveler, mallard, California gull, Canada goose, Forster's tern, Bonaparte's gull, American avocet, western grebe, cinnamon teal, great egret, black-necked stilt, pied-billed grebe, eared grebe, least sandpiper, white pelican, lesser scaup, bufflehead, canvasback, long-billed dowitcher, willet, spotted sandpiper, ruddy duck, American wigeon, white-fronted goose, Western sandpiper, common snipe, yellow-headed blackbird and snowy egret.

If you are interested in finding out about the refuge photo blind program or want to reserve one of the blinds feel free to contact Dave Menke or Jerry King at (530)-667-2231.



The Work Goes On

By Mike Johnson

Refuge Operations Specialist

This years mild winter and spring has allowed the maintenance crew to continue work on refuge roads and our project replacing unsafe bridges. A lot of time and effort went into hauling gravel and grading 5 ½ miles of the Sheepy East road. In order to save money we used rock from an old gravel pit on the refuge. We had a contractor blast the pit for \$39,000 which gave us a stockpile of over 60,000 cubic yards of good base rock. This will keep us supplied for the next 10-15 years. In addition to rebuilding the base, we surfaced the road with over 15,000 yards of pit-run gravel and constructed 3 vehicle turnouts. This road which is the main access route for the east side of the refuge is now safer and much improved.

Additional road work was done on the Sterns-Orem property which was purchased in 2000. The 1 ½ mile access road, which was dirt, was rebuilt with base-rock and gravel. We now have a good all-weather access road into this newest area of Lower Klamath National Wildlife Refuge. All of these projects were possible due to the fees we collect from our auto tour route and from hunter access fees.

Since last summer the maintenance crew has also replaced 5 bridges at various sites on Lower Klamath refuge. Most of the bridges were small since they crossed canals or ditches, but they were unsafe and did not meet current safety standards. New bridges would be too costly so they were replaced with culverts. An added benefit was we also installed new water controlled structures which allow us to utilize our water more efficiently.

Other projects accomplished the past few months include: cleaning 2.2 miles of the Unit 1 Highway Drain, a ½ mile of the P Canal and work continues on cleaning the Sump 1-B drain. We also constructed 1 ½ miles of new boundary fence in Sheepy West and assisted a California Dept. Of Forestry crew with removing 5 miles of old fence and corrals from the Orem acquisition. A new chemical storage shed was also installed as was an office addition at the Lower Klamath shop building.

As you can see we had a busy winter and as spring arrives the maintenance crew continues its work to make the refuge a safe, productive haven for wildlife and a pleasant place to visit for the public.

Dates to Remember

May 12 – International Migratory Bird Day

Alturas, California

Many events that are Free and open to the public will be hosted by the Modoc National Wildlife Refuge and other local businesses on May 11, 12, & 13, 2001

Check local newspapers or contact Modoc National Wildlife Refuge at

(530) 233-3572 for more information

Klamath Falls, Oregon

Free and open to the public events will be held at Klamath Community College on May 11 & 12, 2001

Check local newspapers or contact Steve Hayner (541) 885-4126, Akimi King (541) 885-8481 or Bonnie (541) 880-2204 for more information

May 22-25 – Klamath Basin Fish and Water Management Symposium

Arcata, California – Humboldt State University

A week long symposium on Environmental and Economic issues affecting the basin will be hosted by the Office of Extended Education

For more information contact the Office of extended Education Humboldt State University @ (707)826-3731 or email: extended@humboldt.edu

Hunt Programs Likely to Change Due to Water Woes

By Dave Menke

Outdoor Recreation Planner

Significant changes are anticipated in hunting programs on Tule Lake and Lower Klamath National Wildlife Refuges this year as a result of a severe water shortage. As reported elsewhere in this newsletter, it is likely that few if any wetlands on Lower Klamath Refuge will have water this fall and croplands on both Lower Klamath and Tule Lake Refuges are likely to be severely reduced as well. If this rather bleak forecast of habitat conditions does come to pass, the following revisions in refuge hunting programs are likely to occur:

Lower Klamath Refuge

If there are no inflows of water to Lower Klamath, refuge wetlands are anticipated to shrink to units 2, 8, and 12c only by July or August. These wetlands would be further reduced by the processes of evaporation and seepage by the time fall waterfowl migrants arrive. The refuge is in the process of developing 7 wells to supplement refuge wetlands. Unfortunately, these wells which may eventually be able to provide 25 percent of Lower Klamath water needs, will not be on-line this fall.

Under any of the situations listed above, Lower Klamath would not be open to marsh hunting. Several grain fields areas on Lower Klamath have been “pre irrigated” by winter flooding (units 7b, most of Sheepy East, and 9b and c) and field hunting in these units should remain open this coming season. Other fields open to hunting, although not planted to grain, will include the new Orem/Sterns unit, 4d, 4e, and 4f, Sheepy West, and Miller Lake. Opening weekend permits for the California portion of Lower Klamath will be reduced to 200 hunters (the normal number is 600). Although the number of grain fields planted in the Oregon Straits Unit is likely to be reduced, this area will remain open to waterfowl hunting as usual.

Tule Lake Refuge

Due to the drought, it is unlikely that successful grain crops will be grown on Tule Lake Refuge except in limited areas which were pre irrigated this past winter. Winter flooded acreage includes lots 1-4 in the northwest corner of the League of Nations, a triangular parcel in the southeast corner of the League, an area including the D blinds and 4 fields to the south and the eastern portion of the panhandle. Tule Lake marsh (sump 1a) is expected to have water levels at near normal levels to protect endangered sucker populations.

With the conditions described above, ***Tule Lake marsh would have “normal” hunting with 200 permits drawn for opening weekend*** and remain open for the balance of the hunting season. Due to very limited grain crops, the spaced-blind program would be dropped this season unless significant grain crops are grown in the spaced blind fields. The Tule Lake check station would not be operated on a daily basis as all field hunting opportunities will be free roam. The League of Nations and most of the former spaced-blind areas would be open to free roam hunting. The former “D blinds” and the closed area to the south would be closed to hunting, but the adjacent “C and E blind” areas on both sides would remain open to waterfowl hunting. The four disabled hunter blinds would be available on an advanced reservation basis. For the first weekend it is anticipated that 150 permits would be issued for the Tule Lake field hunting.

Hunters should note that these plans are tentative due to the fluid and evolving nature of the water situation in the Klamath Basin. The refuge hopes to have a final plan for the refuge hunting season prepared somewhere in the July 1 - 15 time frame, at which time letters will be mailed out to applicants from last years opening weekend waterfowl hunt with hunting season details. Information will also be posted on the refuge’s hunter hotline (530-667-4868) and the hunting section of the refuge web page. (Klamathnr.org) on or about July 1, 2001. For updates and details contact Dave Menke at (530) 667-2231.



Species Spotlight

Cinnamon Teal

Anas cyanoptera

By David Champine

Park Ranger/ Interpretive Specialist

When people come to the Klamath Basin National Wildlife Refuges, they are always surprised and pleased at the amount of wildlife, especially birds, that are on the refuges. Among the many birds that make the refuges their home or a “pit-stop” on their long migrations, ducks with their many different species is the most common and abundant.

When you have such species as Northern Pintail (*Anas acuta*), Northern Shoveler (*Anas clypeata*) and even Wood Duck (*Aix sponsa*) on some parts of the refuge complex, one would think it would be difficult to be distinctive. However, the Cinnamon teal (*Anas cyanoptera*), Red teal or Red-breasted teal, as it is also known accomplishes this task. The male Cinnamon teal with its cinnamon-red head and body and powder-blue wing shoulders make it very distinctive. The female and juvenile cinnamon teal look very similar to the Blue-winged teal (*Anas discors*) females. The male will not stay long in its beautiful breeding plumage though, only until late June when they start to molt and will remain that way through the fall. The distinctive red eye helps distinguish the male from the female and male Blue-winged teal during the eclipse phase.

The Cinnamon teal’s range in general is from southern Canada south through states like Montana, Wyoming, Colorado, into west Texas and South America; then states west to the Pacific and east of this main range. migration corridors are not known that, unlike other migrate in smaller flocks of They travel mainly at night ing done in the twilight When the Cinnamon teal range which the Klamath in, they will start looking for will look for nest sites that bulrushes and other grasses.



and even Mexico covers all of the ocean. It rarely oc- Within this range its well defined. It is dabbling ducks, they 10 to 25 ducks. with some travel be- hours. goes to its breeding Basin plays a part nesting sites. They are in dense cover of They also try to se-

lect sites that are close to water but have selected sites that are up to two hundred yards from the water. The female will then prepare the site by making a small nest bowl averaging seven inches in diameter and two inches in depth. These bowls will be on the bare earth unless the vegetation is too dense then they will be imprinted into the grasses. The clutch sizes can be from 4 to 16 eggs with 8 being the average. The eggs are pale pinkish-buff and incubation will take 21 to 25 days.

The Cinnamon teal likes to feed on submerged aquatic plants and seeds from pondweed, saltgrass and bulrush. They will also feed on some animal life like insects and mollusks.

So, when you are out on the refuge and you see the Cinnamon teal with its unique color, you will know that it is just one of many birds that make the Klamath Basin National Wildlife Refuges an important part of their lives.

Unusual Coot Behavior

By Charlotte Escott

I spend each spring cruising the dikes of the Lower Klamath Wildlife Refuge, documenting the nesting season. One spring recently, I found some very flat, dried up birds that had been killed on the road through White Lake. As I could not identify them, I took a friend out to see them.

They were Canadian Cacklers killed the previous winter. While standing, discussing them, I stepped back a pace and an American Coot, fluffed up larger than life, threw itself at me, slamming into my ankle. In looking around, I spotted a nest on the ground at water's edge. Which is very unusual for a Coot. It had 7 eggs in it.

The bird backed up to the nest and continued to fluff up and growled at me. As I stepped a little to the side, the other bird of the pair that had been swimming nearby suddenly went up, very laboriously into a splashing display.

Upon returning to my RV, I looked in *The Birder's Handbook*. I expected to find a description of the distraction display I had witnessed. Instead it said “—*interestingly enough the American Coot does not have a distraction display as other Rails do.*”

I started visiting the nest each day. At my approach, the bird on the nest slid off to the water while the other bird came swimming rapidly and positioned itself alongside the nest, fluffed up with wings spread and growled like a dog.

If I slid my foot toward the nest, the bird on the water would make a great effort to get up and churn the water with its feet. It would continue this behavior at each movement I made toward the nest. I was careful not to get so close that the defender would physically attack again. Although, I now wish I had, to record its reaction on film.

They continued this behavior, each day, until the eggs hatched and they took the babies out on White Lake.

I found another nest approximately 300 feet west of the first one. It was out in the water about a meter. The babies had already hatched. Whenever, I stepped toward the nest, one of the adults would swim back to the nest and do the same splashing display as the other coots.

In *Bent's* book on Marsh Birds, this behavior is documented in detail. However, the researcher's theory was that the birds were either nervous or trying to scare them away.

In my opinion, I think it is a distraction display, as the birds did not appear to be nervous, only alert and watching me. The bird on the water swam in circles, picking at the water, only going up and splashing, when I moved toward the nest. Because it takes so much effort to get up and splash, the bird can be facing in whatever direction it happens to be when or if it achieves the splashing position.

It has been my observation that when an animal is trying to frighten a predator away it is facing the threat, as the bird that defended the nest was. It never once took its eyes off me.

Perhaps the books are wrong.



Keep in touch!!!

We are updating our mailing list for **Words from the Wetlands**.

Please let us know if your name or address is incorrect or misspelled.

Send your corrections to: Editor- "Words from the Wetlands"

USFWS

4009 Hill Road

Tulelake, CA 96134

Would you or a friend like to be on the Words from the Wetlands free mailing list?

Write or call Refuge Headquarters.



United States Department of Interior
US Fish and Wildlife Service



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